

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
4 November 2004 (04.11.2004)

PCT

(10) International Publication Number
WO 2004/093662 A3

(51) International Patent Classification⁷: C12Q 1/00, G01N 33/53, 33/567, 33/574, A61K 38/00, C07K 2/00, 4/00, 5/00, 7/00, 14/00, 16/00, 17/00

(21) International Application Number: PCT/US2004/006085

(22) International Filing Date: 19 March 2004 (19.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/455,585 19 March 2003 (19.03.2003) US

(71) Applicants (for all designated States except US): SEIKAGAKU CORPORATION [JP/JP]; 1-5, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 103-0023 (JP). THE BURNHAM INSTITUTE [US/US]; 10901 North Torrey Pines Road, La Jolla, CA 92037 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): OHYAMA, Chikara [JP/JP]; 3-5-18-402, Kunimi, Aoba-ku, Sendai-shi, Miyagi 981-0943 (JP). FUKUDA, Minoru [JP/US]; 2818 Passy Avenue, San Diego, CA 92122 (US).

(74) Agents: BOLAND, Mark et al.; Sughrue Mion, PLLC, 2100 Pennsylvania Ave., N.W., Suite 800, Washington, DC 20037-3213 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 25 November 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR DETECTING PROGNOSIS OF CANCER

(57) Abstract: It is to provide a method and a kit for detecting the prognosis of cancer at high accuracy in a simple and rapid manner at low cost. The method is specifically a method for detecting the prognosis of cancer, at least including a step of detecting core-2 β 1,6-acetylglucosaminyltransferase in a sample collected from a biological organism to examine the relationship between the results of the detection and the prognosis of cancer in the biological organism, wherein core-2 β 1,6-acetylglucosaminyltransferase is preferably core-2 β 1,6-acetylglucosaminyltransferase-I; the biological organism is preferably human body; and the sample is preferably a living tissue.

WO 2004/093662 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/06085

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/00; G01N 33/53, 33/567, 33/574; A61K 38/00; C07K 2/00, 4/00, 5/00, 7/00, 14/00, 16/00, 17/00
 US CL : 435/4, 7.1, 7.2, 7.21, 7.23, 7.4; 530/300, 350

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/4, 7.1, 7.2, 7.21, 7.23, 7.4; 530/300, 350

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Medline, HCAPLUS, STN, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SCHIMODAIRA, K. et al. Carcinoma-associated Expression of core 2 beta-1, 6-N-acetylglucosaminyltransferase gene in human colorectal cancer: Role of O-glycans in tumor progression. Cancer Research. 01 December 1997, Vol. 57, pages 5201-5203, entire document.	1-3
Y	SCHNEIDER, F. et al. Overexpression of Sialytransferase CMP-Sialic Acid: Gal beta1,3 GalNAc-R alpha 6-Sialyltransferase is related to poor patient survival in human colorectal carcinomas. Cancer Research. 01 June 2001, Vol. 61, pages 4605-4611, see entire document.	11-13
X		1-3
Y		11-13

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

28 September 2004 (28.09.2004)

Date of mailing of the international search report

28 OCT 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Alana M. Harris, Ph.D.

Telephone No. 571-272-1600

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/06085

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.: 4-10 because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.